AFMUN 2025

Antalya Fen Model United Nations Conference

WHO

STUDY GUIDE

Agenda Item:
Combating the illicit usage of N05 psycholeptic medicine

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1. Letter From the Secretary General

Fellow countrymen and countrywomen;

I, as the Secretary-General of the conference, am deeply honored to welcome you, participants, to AFMUN'25. I owe each of you a gramercy for saving yourselves from the darkness of ignorance by attending such an event.

A thank must also be given to our unrelenting academic and organization teams. Without their labor, the light that we are trying to bring to our generation wouldn't have been ignited.

We live in a twilight world; wars, crimes, famines, genocides, drought, environmental crises, economic collapses, etc. The idea of organizing AFMUN was shaped around these core motivations. Our objective is to show the aforementioned aspects of the world to you, our participants, and to provide a world-class MUN experience that is organized in line with our objectives. During the conference, you will expand your horizons and change the way you see the world. Do not forget; we will illuminate the future together.

Let us bow our heads; the king is returning...

Çağan Taylan ÖZGÜN
Secretary-General of AFMUN

2. Letter From the Under-Secretary General

Esteemed participants of this committee,

I sincerely welcome you all to this prestigious conference. I look forward to serving as your Under-Secretary General for the upcoming three days. I would like to deliver my heartfelt gratitude to the Academic and Organization teams, and especially to the Executive team; Çağan, Ilgın and Ata.

While expressing my thanks, I definitely would not forget İdil Tekin, my beloved Academic Assistant. She has been an incredible support throughout this journey, and she is truly irreplaceable. I truly hope that this will not be our last time working together.

This committee is not complicated at all, even though the medical terminology may be confusing. I ask that you read our study guide thoroughly, find answers to our "questions to be addressed", and prepare a position paper. If you have any questions, feel free to reach me via mail.

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Yours Truly,

Defne Çankaya

3. Introduction to the Committee

The World Health Organization, commonly known as WHO, is a specialized agency of the United Nations (UN) that focuses on international public health issues and crises. Its headquarters are located in Geneva, Switzerland, and there are six regional offices and 150 field offices worldwide. Only sovereign states are eligible to join, and it is the largest nongovernmental health organization at the international level. WHO originated from several international health organizations that united for the same purpose under the League of Nations when it was formed; however, WHO legally began its work on September 1, 1948.

WHO is responsible for promoting the control of epidemic and endemic diseases, providing and improving the teaching and training in public health, the medical treatment of disease, and related matters, and promoting the international standards for biological products. WHO is governed by the World Health Assembly (WHA), which elects the Director General — currently Tedros Adhanom Ghebreyesus of Ethiopia — sets goals and priorities, and approves the budget and budget-related activities. WHO is mainly funded by member states and private donors.

4. Introduction to the Agenda Item

4.1 Key Terms & Definitions

Anatomical Therapeutic Chemical Classification (ATC) N05: ATC is an alphanumeric code developed by WHO to classify the active chemicals in drugs according to their bodily system and their pharmacological and therapeutic specialties. ATC aims to control and monitor drug use and conduct research to improve the quality of medicine. The ATC is divided into 5 levels and 14 anatomical or pharmacological groups in letters that arrange different types of drugs in subgroups. This committee focuses on ATC N05 (Level 5, Anatomical group N), which is the category for chemical substances in the nervous system, otherwise known as psycholeptics.

Psychotropics: A psychotropic describes any drug that is responsible for the regulation of one's behaviors and emotions and that affects behavior, moods, thoughts, or perception.

Psycholeptics: A psycholeptic is a term that accounts for psychiatric medicine that has a calming effect upon a person. Psycholeptics have various types that vary from antidepressants to cannabis to herbal medicines and are used for several mental health treatment purposes, such as anxiety, depression, and psychosis. There are 3 types of

psycholeptics within the N05 subcategory: N05A Antipsychotics, N05B Anxiolytics, and N05C Hypnotics and Sedatives.

Self Medication: Self-medication is defined as the use of medicines to treat self-diagnosed symptoms or disorders, or the intermittent or continuous use of prescribed medicines for chronic or recurrent symptoms or diseases. In practice, this definition also includes the use of medicines for family members, especially when treating children or the elderly. Some factors that influence the practice of self-medication include mild symptoms, lack of health insurance, health care costs, social, cultural, and economic environment, the state legislation for easy access to drugs, and previous experience.

Doctor-Shopping: Doctor-shopping is seeing multiple medical professionals in the hope of receiving additional prescriptions of the same medication.

Polypharmacy: Polypharmacy, defined as the regular use of 5 or more medications at the same time, is common in older adults and at-risk younger individuals.

4.2 How to Write A Position Paper?

A position paper is a document in which a delegate states their position, policies, and views on the topic of discussion. As opposed to other documents in MUN, it is submitted *prior* to the conference. ***Submitting a position paper will affect your award, and the detection of Artificial Intelligence in your position paper will have direct negative consequences.*** It is a single page that consists of three paragraphs, all focusing on different points about your allocated member state and the agenda item.

Position Papers are to be submitted via email until the deadline (01.05.2025, 11.59). You may submit your papers to this email address: defne.cankaya07@gmail.com

Paragraph One - Issue and Position
The point of this section is to provide an essential foundation for the topic of discussion and state the policies of your allocated country on it. After describing the issue, the policy of your allocated country and the reason that they follow that policy should be stated. If your country doesn't have a clear policy on the said topic, state that instead. This part should consist of 5 sentences maximum.

Paragraph Two - Background Information
This part should consist of past and current situations regarding the topic. This paragraph points out the historical origin of the problem, its importance to the international community, and current problems that haven't been addressed. This paragraph can be as long as needed in order to ensure that you have stated everything of concern.

Paragraph Three - Solutions Regarding the Issue

After identifying problems in the previous paragraph, one should propose solutions in this paragraph. Specific solutions and their implementation should be explained in this paragraph.

5. Usage and Abuse of Psycholeptics

Psycholeptics are widely requested and prescribed worldwide for various health reasons; however, the off-label usage of these medications has increased over the past years with the current trends in the world. Therefore, the use of psychotropic medicine in general is not just a medical problem, it's a complex social phenomenon. While it's essential for mental health treatment for some, the prescription and ongoing off-label use of psycholeptics can lead to negative consequences, hence the risks and the threat of potential misuse. When one first uses psycholeptics, people may perceive what seems to be positive effects. They also may believe they can control their use without the supervision of a professional. Moreover, unsupervised use of these medicines can quickly take over one's life. Over time, the individual might not be able to function without this medicine, and with unlimited access to these drugs, the result may lead to addiction.

5.1 Why Do People Use Psycholeptics?

The use of psycholeptics can have various reasons linked to mental health conditions. Demographically, the prevalence of psycholeptic use amongst different groups varies depending on the type of medication. Statistically, the use of ADHD medication is higher amongst adolescents, while hypnotics are more prevalent amongst older adults. People can lean into using such medicines for personal reasons other than diagnosed health conditions; hence, these medications may have effects like increased happiness, improved self-confidence, etc., on some individuals. There are various motives for off-label use and abuse of psycholeptics.

Peer Pressure: Peer pressure plays a significant role in the misuse of psychotropic medications, mainly amongst adolescents. Teens with low peer-refusal skills may experience emotional pressure to use psycholeptics if a friend or classmate is using or encouraging this action.

Normalization: When an individual is a part of a social circle or consumes media in which psychotropic drug misuse is common and considered normal, said individual can start seeking psychotropic medications for non-medical purposes.

Misinformation and Misconception: Psycholeptics are commonly known for factors such as mood improvement, performance enhancement, and alleviation of social anxiety,

which leads people to the misconception that psycholeptics are harmless drugs that can be self-medicated. These misconceptions lead people to entertainment and curiosity-motivated use and academic and performance-motivated use of psycholeptics. Spreading of misinformation about the effectiveness and safety of psycholeptics may contribute to this overuse.

Disordered Mindset & Weight Loss: Individuals with eating disorders and distorted body image may be driven to misuse specific types of psycholeptics for weight loss; hence, they can have a significant effect on one's appetite.

Addiction and Dependence: Contrary to the previously listed reasons for psycholeptic abuse, addiction and dependence start after experimenting with substances. Addiction and dependence are different but related terms in medication abuse. Dependence is when an individual's body adapts and starts relying on the medicine, which leads to withdrawal symptoms upon discontinuation of usage. This condition can be seen with prescribed medicine as well, since the body becomes dependent on the medicine's effects on the brain. Addiction, on the other hand, implies one's need to use said substances despite the negative consequences. It is distinguished by substance-seeking behaviours and the desire to continue using despite the harmful consequences. While dependence can occur without addiction, some medications of this sort, such as benzodiazepines, barbiturates, and stimulants, carry a higher risk of both conditions. These are drugs that produce rewarding effects, increasing the risk of compulsive use. Dependence and addiction are terms that go hand in hand; they contribute to and add to each other, and are factors that contribute to psycholeptic abuse.

a) Risk Factors

Several risk factors can be a sign of one's potential for psycholeptic abuse. In cases of such signs being detected, a potential psycholeptic abuse in the foreseeable future of the individual can be eliminated by early interventions on these factors.

Risk factors usually start appearing during childhood/adolescence and are most dangerous in the early life of individuals. The most tangible one of these early risks is early exposure to medicine abuse and *the availability of psycholeptics* at a young age. Early exposure to psycholeptics — especially at home — causes the normalization of excessive/unnecessary use of psycholeptics in the child's brain, and availability of such substances at home/school, etc, can drive a curious child to experiment with these substances and eventually lead to psycholeptics abuse. *Lack of parental supervision and negligence* in this case also play a significant role. An unsupervised child might lack the thought process that should prevent the usage of substances and might be more reckless than the average child subjected to parental supervision. Hence, the negligence of the parents, the experimentation

of the child with psycholeptics, developing into an addiction, may not be brought to attention before the situation gets out of hand.

Aggressive behavior in childhood may also be an indication of psycholeptic abuse later in the individual's life; hence, it is considered to be a clear sign of behavioral disorders linked to mental health. Another risk factor leading to psycholeptic abuse in one's life is *poor self-confidence and low peer refusal skills* in children. Children with these inabilities are often subjected to and are easily affected by peer pressure.

Mental health issues are one of the most significant risk factors leading to psycholeptic abuse. Individuals with poorly managed or untreated mental health issues are at a heightened risk of psycholeptic abuse. Conditions such as anxiety, depression, and personality disorders can lead to poor attempts at self-medication in which individuals seek relief from the symptoms of said conditions by misusing prescribed or illicit psychotropic medication. *The inadequacy and inaccessibility of mental health support* may lead individuals to rely on such medicine for self-management of said conditions.

Lastly, *lack of medical supervision*. Medical supervision and monitoring are extremely important when it comes to psychotropic medicine, such as psycholeptics, hence, these medicines' effects tend to vary from patient to patient, and some subtypes are highly addictive or prone to dependence. When medical supervision and attention are lacking, the patient may be affected by misinformation about the meds in question or start self-medicating without the oversight of a medical professional, which can lead to consequences such as misuse, addiction, dependence, and even overdose.

b) Protective Factors

Despite the large number of risk factors leading to misuse of psycholeptics, there are also many protective factors. While there are no definitive protective factors that can completely eliminate the misuse of psycholeptics, certain factors can significantly decrease the possibility of misuse or reduce the harmful effects once this act has begun.

Hence, risk factors may begin to rise during childhood, there are also protective factors and measures that can be taken against them early in life, *self-efficacy* being one of them. It's important to ensure self-efficacy and self-confidence in children and adolescents to lead them to correct choices and information, establish the strength of refusal, and cultivate decision-making skills. Children with these qualities will simply have better chances of avoiding harm throughout their lives, not just psycholeptic misuse. Another factor that comes in handy

during the early years of life to prevent such cases is *parental monitoring and positive relationships*. Just like a lack of parental monitoring increases the risk of psycholeptic use, proper parental monitoring decreases it by increasing the likelihood of adhering to the professional oversight of prescriptions, enhancing the information and awareness, and limiting the risk of unsupervised access to the medication and identifying early warning signs of potential misuse. Enhancing positive relationships between the child and the social circle they take place also plays a significant role in averting the risks. Positive relationships provide the child with a sense of belonging and security, encourage open communication, and, most importantly, contribute to the mental well-being of the individual.

Now moving on to the more tangible factors, the first thing that comes to mind is *being attentive to scheduled check-ins*. Scheduled check-ins are vital for determining the individual's need levels for the medicines in question and for the healing process of said individual. These check-ins can also prevent the unnecessary use of psycholeptics, hence professionals will be in touch with the patient's needs and give or limit prescriptions according to the need level. Seeking consecutive mental health support is also one of these factors since its effects on the individual's well-being play a vital role in preventing psycholeptic abuse in the first place by providing the needed support before the intervention of medication. Now, you may ask ''Wouldn't the individual already have to be seeking mental support from professionals if they have prescriptions?''. Prescriptions are obtained via psychiatrists, who aren't professionals responsible for providing non-medical support, instead, they are only responsible for detecting the patient's needs and medication, which would mean patients who go to psychiatrists don't necessarily receive mental health support from them. This is where therapy comes into play. Therapy plays a vital role in curing many mental illnesses and solving the problem before medication gets involved in the matter.

5.2 How Do People Misuse Psycholeptics?

a) Forms of Misuse

Various forms of misuse can be observed in psycholeptics, which can differ from user to user depending on the purpose of misuse.

Overdose: Overdose is taking an excessive amount of medicine for a single instance, potentially causing temporary or permanent damage to the body. An overdose can be intentional in some cases, for example, suicide attempts, or to experience the extreme effects of the medication, or it can be unintentional due to accidents or misunderstandings about the instructions. An overdose has a high risk of immediate and severe effects, including organ damage, coma, and death. The severity of these effects depends on the medication, the amount taken, and the individual's physiology.

Overuse: Overuse means consuming the prescribed medication more frequently or for a longer period of time than necessary. Contrary to overdose, overuse isn't necessarily taking a significant amount of medicine once; instead, it's a continuous, consecutive pattern of taking medicine in slightly higher doses. The act of overuse can be driven by the desire for continued relief and increased effects or dependence on the medication. There are various risks of overuse, such as dependence and withdrawal symptoms, building tolerance to the medicine, and cumulative long-term side effects on the individual.

Combination With Other Substances/Medicines: Combining psycholeptics with other substances or medicines is highly risky and can lead to a range of unpredictable and potentially negative consequences regarding the individual's well-being, and even lead to life-threatening situations. The instructions for medicines come in handy when eliminating an accidental combination, hence, they warn the user about all of the potential risks of different combinations. Combination of psycholeptics is commonly done with other medicines, alcohol, and recreational drugs.

Combining psycholeptics with other medications can result in various problems depending on the type of medicine it combines with and the amount/frequency of the combination. Some of the results of polypharmacy are increased sedation in the case of combination with other sedatives, cardiovascular issues, metabolic changes, reduced effectiveness, increased side effects, and risk of serotonin syndrome when combined with certain antidepressants, heart medications, and other antipsychotics.

Alcohol/drugs with psycholeptics are the most common combination among others. Combining alcohol and drugs with psychotropic medications has various risks associated with it, such as increased risk of overdose and seizures, worsening of mental health issues and symptoms if done frequently, respiratory depression, and liver strain.

Altering the Route of Adherence: Most psycholeptics are designed for oral ingestion, however, alteration of the route of adherence is a common form of misuse with various risks. Some alteration methods are crushing and snorting, and crushing and injecting, which can lead to the blockage of blood vessels, infections, tissue damage, and the aforementioned effects in the previous paragraphs.

Usage of Psycholeptics for Other Reasons: Despite being designed for certain neurochemical imbalances and mental health issues, psycholeptics have a wide range of side effects, which may be considered helpful for some users despite not being the target of prescription. These so-called positive side effects lead individuals to desire psycholeptics for unrelated reasons. Some patients may even try to get these medications prescribed solely for the side effects, disregarding the possible outcomes. The most common examples of this are using psycholeptics as sleep aids, sedatives, mood stabilizers, management for agitation or behavioral issues, and calming effects.

b) Misuse of Specific Subtypes:

Antipsychotics: Misuse/abuse of second-generation antipsychotics, particularly quetiapine and, less commonly, olanzapine, is increasing due to increased prescribing and a dramatic rise in off-label use for insomnia and anxiety. From 2005 to 2011, quetiapine-related emergency department visits for misuse/abuse, suicide attempt, or adverse reactions increased by 90%. The leading cause of quetiapine visits was misuse or abuse, defined as any non-medical use, overmedication of a drug taken alone or in combination with other substances (including medication prescribed for another person). What are the potential reasons for abuse of second-generation antipsychotics? From a pharmacologic standpoint, serotonin, histamine, and α-adrenergic neurotransmitter systems play a role. At low doses, quetiapine primarily acts as a histamine (H1) antagonist and serotonin receptor antagonist (increasing synaptic serotonin). The sedating effects (H1 antagonism) and anxiolytic effects (α-blockade) are the likely drivers of misuse. The dopamine blocking effects (which would seem counterintuitive as drugs of abuse cause dopamine release) occur only in high doses (>300mg). Inpatient addiction center surveys reveal that the majority of patients using antipsychotics are male, polysubstance users, and obtained quetiapine from a physician (52%) or family/friends (48%). Reasons given for misuse included to "recover" from other substances (66.7%), "enhance" effects of other substances (25%), and to "experiment" (20.8%). Other reasons include: "self-medicate insomnia and anxiety, get drunk without the hangover, reduce the crash from stimulants such as cocaine, zone out, take the edge off, isolate themselves from prison surroundings, substitute for other drugs (jailhouse heroin), and to calm nervousness and anxiety after crack cocaine use." Most (75%) reported the positive effect of "feeling mellow."

Anxiolytics: Benzodiazepines and z-drugs are commonly misused to help with sleep, relieve stress, and to ameliorate effects of other drugs. In the UK, 7.7% of respondents admit misuse, comparable with the US, and misuse by children and young people may be increasing. Although safer than barbiturates, benzodiazepine overdose can result in coma and death through respiratory depression. Furthermore, the risk of overdose increases substantially when taken with other drugs, especially opiates. Misused benzodiazepines are usually obtained through diversion from legitimate sources including pharmacies, pharmaceutical suppliers, and prescription. Higher prescribing rates are associated with increased misuse, and both benzodiazepines and z-drugs continue to be widely prescribed in UK primary and secondary care. A small decline in the proportion of patients prescribed benzodiazepines in primary care (from 3.5% in 2000 to 2.6% in 2016), was mirrored by a rise in z-drugs, and very long term prescribing is increasing. Prescribing of benzodiazepines and z-drugs rises with age and duration of treatment increases with social deprivation, diversion of prescribed drugs may involve exploitation of vulnerable older people and those in financial difficulty.

Hypnotics and Sedatives: Misuse is often self-medication (chemical coping) of psychological symptoms in ways unauthorized by the prescriber, usually as dose escalation leading to requests for early refills. Sedatives are abused for euphoric effects, which may have dangerous consequences. Some sedative overdoses can be treated with flumazenil, a reversal agent, along with supportive care. Sedative withdrawal syndrome is treated by tapering the sedative and may require hospitalization. Long-term treatment of sedative addiction requires counseling, often with the help of an addiction-treatment professional.

Patients who engage in chemical coping may develop tolerance to the other effects of the sedative more rapidly than to the therapeutic effect for which it was prescribed, leading to dose escalation. Increases in emotional stress (disputes with family or friends, professional pressures, or financial worries) can heighten a patient's sensitivity to discomfort from anxiety symptoms, leading to increased consumption of controlled substance medications. However, this is not the same as addiction or intentional malingering. Presentations of intentional malingering may include exaggerating symptoms of anxiety or insomnia; resisting access to outside medical records; deterioration or exacerbation of symptoms when medication dose is due to be reduced; a significant number of tests, consults, and treatments have been performed with little success; non-compliance with diagnostic or treatment recommendations; or evidence from tests disputes information provided by the patient.

Chemical coping behavior is challenging for physicians to address. Somatization of psychological distress into physical symptoms is pervasive in medical practice, and the boundary between physical and mental distress is not clearly distinct for many patients. Use of prescribed sedatives becomes a reliable coping skill, but it is maladaptive. The challenge for the treating physician is to help patients identify the underlying (often subconscious) reasons for reliance on other inappropriate effects of the medication and then help the patient begin the process of developing new coping skills for dealing with symptoms of anxiety and depression. Utilization of specific antidepressant medications can be very effective as a way to shift the focus away from inappropriate use of sedatives toward treatment of the underlying condition. The selective serotonin reuptake inhibitors are safe, not prone to misuse, and can be accompanied by cognitive-behavioral therapy for long-term treatment of comorbid psychiatric diagnoses.

The clinical features of acute sedative intoxication are similar to alcohol intoxication. Psychiatric manifestations include impaired attention, inappropriate behavior, labile mood, and impaired judgment. Physical signs include nystagmus, decreased reflexes, and unsteady gait. As the amount consumed increases, especially beyond the established tolerance of an individual, progressively more impairment occurs in judgment and brain function. Initial signs include slurred speech, followed by nystagmus, incoordination,

ataxia, and memory impairment. Severe overdose may lead to stupor, and high levels result in suppression of the autonomic respiratory drive and may result in coma or death from anoxic brain injury. Long-term use of benzodiazepines can worsen underlying depression and anxiety. A recent study showed that benzodiazepines accounted for nearly 30 percent of deaths from pharmaceutical agents, and 75 percent of overdose deaths were unintentional. Patients who chronically take sedative medications, whether prescribed by a physician or bought on the black market, are at risk for an acute withdrawal syndrome that is clinically indistinguishable from alcohol withdrawal. The severity of withdrawal is affected by concurrent medical illness. Risk factors for severe withdrawal (delirium tremens) include larger amounts of sedatives taken chronically, longer time of use, older age, and comorbid medical or psychiatric problems. Few data are available about long-term physiological and psychological consequences of intermittent, high-dose use of sedatives in the setting of polysubstance use. Up to 20 percent of patients develop severe withdrawal if left untreated. Recognition and effective treatment of withdrawal is important to prevent excess mortality due to complications. There is significant individual variability in the threshold at which a patient may develop withdrawal, so it is difficult to predict who will and who will not. The best predictor of whether a patient will develop acute withdrawal is a history of acute withdrawal.

The clinical features of the acute withdrawal syndrome are identical for all sedatives, including alcohol (which may be considered a short-acting sedative), due to cross-tolerance. Abrupt reduction or cessation of sedative use results in a characteristic set of signs and symptoms, including tremor, anxiety, agitation, hyperreflexia, autonomic hyperactivity (e.g., elevated heart rate, blood pressure, temperature, and sweating), hallucinations, and seizures. Withdrawal symptoms are the opposite of the symptoms of acute intoxication. The initial indication of withdrawal is an elevation of vital signs (heart rate, blood pressure, temperature). Tremors develop next, first a fine tremor of the hands and fasciculation of the tongue, sometimes followed by gross tremors of the extremities. Disorientation and mild hallucinations (often auditory, occasionally visual) may develop as the syndrome progresses, accompanied by diaphoresis. Seizures can be an early sign of withdrawal and may be the presenting symptom. The symptoms may appear as soon as 4 to 8 hours after the last dose, and withdrawal symptoms usually manifest within 48 hours, but for sedatives with long-acting metabolites, the patient may not show signs of withdrawal for up to 7 to 10 days after stopping chronic use. Withdrawal symptomatology of z-drugs resembles that of other sedatives, including craving, insomnia, anxiety, tremor, palpitations, delirium, and, rarely, seizures and psychosis. Withdrawal symptoms usually peak at around 5 days. Some patients do not progress to severe withdrawal, and the symptoms simply subside after a few days with or without treatment, but it is impossible to predict which patients will progress or not. The signs of severe withdrawal consist of worsening diaphoresis, nausea and vomiting (which may result in aspiration pneumonia), delirium with frank hallucinations, and rapid, severe fluctuation in vital signs. Sudden changes in blood pressure and heart rate may result in complications such as myocardial infarction or a cerebrovascular event, and increased

QT variability elevates the risk for serious cardiac arrhythmias. Progression to severe withdrawal results in significant morbidity and even death, but adequate treatment early helps prevent the progression of withdrawal.

6. Obtaining Psycholeptics

6.1 Prescriptions & Doctor Shopping

Psycholeptic prescriptions are truly not one-size-fits-all; healthcare providers usually review clinical records to see if evidence exists for recommending one medicine over another. They also consider family history and side effects when prescribing medication.

Treatment typically consists of pills or capsules, taken daily. Some can also be available as liquids, injections, patches, or dissolvable tablets. People who have difficulty remembering to take medications daily or people with a history of stopping medication may have better results by taking medication as a shot at the doctor's office once or twice a month.

The over-prescription of N05 drugs also differs vastly between different demographics. For more than 20 years, psychotropic medication trends have been steadily increasing for youth. The United States leads the world in high prevalence rates of use. In Europe and Australia, the trend of rising psychotropic medication rates exists, albeit at a moderate pace. There is notable variation in psychotropic prescription rates across different countries, influenced by historical attitudes, disparities in healthcare access, and varying guidelines. The accessibility and acceptance of a biological psychiatry treatment model have contributed to poorly evidenced treatments becoming common for pediatric mental health services. Most concerning is the fact that the number of youth receiving antipsychotics has increased by 50%-200% over the past 20 years, depending on the cohort. Further, most of the antipsychotic use in youth targets non-psychotic conditions and has not received approved or licensed labeling, thus, is 'off-label' or unapproved. Polypharmacy, i.e., combining classes of psychotropics, despite the lack of robust evidence that benefits outweigh risks, has also sharply increased. As with antipsychotics for behavioral use, 3-class polypharmacy lacks evidence that benefits outweigh risks. The prevalence of antipsychotics and/or polypharmacy, and understanding prescribing patterns and their implications, needs to be emphasized. It is important to note that in many states and countries, government and payor initiatives have already initiated oversight programs, and experts have developed guidance around deprescribing psychotropic medications in youth.

6.2 The Supply Chain of Psycholeptics

This is the part that comes in when psycholeptics cannot be accessed through prescriptions. Despite being the second choice over prescriptions, the illegal supply chain is a common way of accessing prescription-required medication, including psycholeptics. Now, the first question that comes to mind is, how does this illegal supply chain of psycholeptics work? To understand the illegal supply chain of psychotropic medication, one must first take a look at the legal one.

The legal supply chain consists of 6 stages: research and development, regulatory approval, manufacturing, distribution, dispensing, regulatory oversight and monitoring. The first stage, *research and development*, refers to the process of conducting extensive research, performing preclinical safety tests, and developing the medicine accordingly by pharmaceutical companies.

The second stage, *regulatory approval*, is once sufficient evidence of safety is gathered through the tests and research conducted in the previous stage, companies apply for regulatory approval from authorities such as the Food and Drug Administration (FDA) in the United States or the European Medicines Agency (EMA) in Europe. These authorities review the data and the research and approve manufacturing if satisfied.

Manufacturing, the third stage of the chain, starts the process of manufacturing in factories following the approval granted by the authorities. Approved psycholeptic medicine is manufactured in controlled facilities that adhere to Good Manufacturing Practices (GMP), which is a set of rules and standards that ensure the safety, quality, purity, and consistency of the manufactured products.

Fourth stage of the supply chain, *distribution*, is when distributors and wholesalers purchase medicine in bulk from manufacturers and then supply pharmacies, hospitals, and other healthcare providers. This stage often involves measures of safety to prevent theft of the product.

Dispensing, being the fifth stage of the supply chain, is when healthcare providers dispense medication to the patients. Pharmacies are usually the primary point for dispensing medication; however, hospitals may also dispense medications to patients under their care.

And lastly, the sixth stage of the supply chain, *regulatory oversight and monitoring*, is simply the authorities supervising the previous 4 stages from regulatory approval to dispensing. These authorities can be manufacturer companies, governmental bodies (i.e., DEA in the US), and acts of classification.

It is important to recognize the importance of each stage and take in every possibility to be able to disrupt the illicit occurrences that may appear during the supply chain. The

illegal supply chain is quite different from the legal supply chain of medication. The formation of an illegal supply chain comes from diversion from the legitimate supply chain of medicine.

a) Points of Diversion From the Legitimate Supply Chain:

Manufacturing: During the manufacturing part of the supply chain, diversion may appear in two forms: Illicit Production and Diversion of Raw Material and Equipment. Illicit production, while less frequent for established pharmaceutical compounds due to the complexity of production, underground labs can and do produce counterfeit versions of popular psycholeptics. Hence, the lack of regulatory control in these labs, the medicine produced will usually come out to be impure, insufficient, and inconsistent. They may use deceptive packaging to mimic the legitimate product. The second form of diversion in manufacturing, diversion of raw material and equipment, is a less common one in which some individuals with connections to legitimate pharmaceutical manufacturing may attempt to divert raw materials or equipment illicitly.

Distribution: Throughout the distribution, theft appears to be the main issue leading to diversion. Theft during transit and internal theft in logistics. Theft during transit is what it sounds like: stealing medicine during transportation, which can appear in forms as hijacking of trucks or warehouse break-ins. Theft in logistics, contrary to theft in transit, is a more complicated problem. Employees of distribution companies might steal quantities of medication over time.

Dispensing: Pharmacies and prescribers mainly play a role in diversion from dispensing. For pharmacies, employee theft and illegal dispensing make up the majority of the cases. Employee theft is when an employee steals medicine for personal or resale purposes by exploiting the loopholes, such as waste disposal procedures, or ‘’lost” or ‘’ wasted medicine. With prescription, there are a few cases of diversion, one of them being ‘’pill mills”. A pill mill is a doctor who prescribes medication without supervision in exchange for money. Forged or altered prescriptions also play a role in this diversion, although it doesn’t directly involve the prescriber. Excessive quantities in prescriptions can also be a method of diversion since some patients sell excess medication.

b) The Illegal Supply Chain:

Sources of the illegal supply chain of medicine include all of the diversion methods mentioned above. The initial source of psycholeptics in the black market may be an organized warehouse theft or individuals selling prescribed medicine. The illegal supply chain is seen in 2 stages: Dealers and Distribution Networks.

Dealers are either individuals who sell small quantities of medication directly to the users in the street (street dealers) or more advanced dealers with established connections who

operate on a larger scale by buying from sources and selling to a network of smaller dealers. With substance dealing, organized crime groups also play a role. The black market for prescription drugs may be linked to larger criminal organizations linked to illicit activities.

Illegally obtaining drugs usually involves a distribution network of some sort. The darknet is the first distribution network that comes to mind. Coordinating sales on the dark web is quite easy, considering the fact that the dark web is accessed through untraceable browsers. Some black market suppliers offer delivery services. Encrypted messaging apps also have networks in their body, hence it's the most discreet communication channel available. Other than these two, informal networks like personal connections, word of mouth, local reputations, and street sales also play a role in distribution.

7. Past Actions on the Matter

UN Convention on Psychotropic Substances (1971)

The UN Convention on Psychotropic Substances establishes an international control system for psychotropic substances, including import and export restrictions, aiming to limit their use to medical and specific purposes. Some of the articles listed in the adopted resolution of the convention include: scope of control of substances, limitation of use to medical and scientific purposes, licenses, prescriptions, warnings on packages and advertising, provisions relating to international trade, measures against the abuse of psychotropic substances, and so on.

Note from the Academic Team: For further reading on the convention, you may visit the following link;
https://www.unodc.org/pdf/convention_1971_en.pdf

WHO Expert Committee on Drug Dependence (ECDD)

The ECDD is the Expert Committee on Drug Dependence. The Committee consists of an independent group of experts in the field of drugs and medicines. The ECDD first met in 1949, and since then has reviewed over 450 substances up to the present day. A proportion of the 450 substances are around 100 substances considered between 2014-2023, which are of current public health relevance. The recommendations of the Expert Committee are based on the best available scientific, medical, and public health evidence and must comply with the criteria established in the conventions.

International Narcotics Control Board (INCB)

The International Narcotics Control Board (INCB) is an independent, quasi-judicial expert body established by the Single Convention on Narcotic Drugs of 1961 by merging two bodies: the Permanent Central Narcotics Board, created by the 1925 International Opium Convention; and the Drug Supervisory Body, created by the 1931 Convention for Limiting the Manufacture and Regulating the Distribution of Narcotic Drugs. INCB has 13 members, each elected by the Economic and Social Council for a period of five years. INCB members may be re-elected. Ten of the members are elected from a list of persons nominated by Governments. The remaining three members are elected from a list of persons nominated by the World Health Organization (WHO) for their medical, pharmacological, or pharmaceutical experience. Members of the Board shall be persons who, by their expertise, competence, impartiality, and disinterestedness, will command general confidence. Once they have been elected, INCB members serve impartially in their capacity, independently of Governments.

Operation Pangea (Interpol)

This is a recurring international operation that targets the online sale of counterfeit and illegal medicines and medical devices. While not exclusively focused on psychotropics, it often seizes significant quantities of illegally sold prescription drugs, including those that fall under the psycholeptic category (e.g., benzodiazepines, sleeping pills). These operations involve coordinated efforts by law enforcement, customs, and health regulatory agencies from numerous countries.

DEA (U.S. Drug Enforcement Administration) Operations

The DEA regularly conducts operations targeting the illegal diversion and trafficking of controlled substances, including psychotropic medications. These operations can range from investigating "pill mills" and rogue online pharmacies to large-scale investigations into drug trafficking organizations. Examples include:

Operation "Pilluted": Focused on illegal prescribing and distribution of prescription opioids and other controlled substances, which can indirectly impact the diversion of other psychotropics.

Targeted Enforcement Actions: Specific investigations into doctors, pharmacies, or individuals suspected of illegally diverting or selling psychotropic medications.

The Controlled Substances Act (CSA): The Controlled Substances Act (CSA) places all substances that were in some manner regulated under existing federal law into one of five schedules. This placement is based upon the substance’s medical use, potential for abuse, and safety or dependence liability.

Europol's Operation SHIELD

This European Union-wide operation targets the trafficking of counterfeit and substandard medicines, including psychotropic substances. It involves coordinated actions by law enforcement and regulatory authorities in EU member states, leading to arrests and seizures of illicit pharmaceuticals.

8. Questions to be Addressed

- How can past actions for controlling certain substances be improved on a global scale?
- What can refine the current involvement and actions of local authorities regarding combating the misuse/illicit use of psycholeptics?
- Which actions can be taken in order to disrupt the illegal supply chain?
- What are the current prescription systems lacking about protection against misuse and how can they be enhanced?
- What precautions can be taken in order to decrease the rate of psycholeptic misuse?
- Which organizations can the World Health Organization collaborate with in order to fight against the misuse and illicit usage of psycholeptics?

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